

CLAIMS:

1. A method for preparing an optical fiber, comprising the steps of:

5 applying a liquid composition of an electron beam-curable resin to a bare optical fiber or a coated optical fiber having a primary or secondary coating on a bare optical fiber,

10 irradiating electron beams to the resin composition on the optical fiber for curing while the optical fiber passes a zone under substantially atmospheric pressure, and

providing a magnetic field in the zone for thereby improving the efficiency of electron irradiation.

15 2. The method of claim 1 wherein the magnetic field has a magnetic flux density of at least 0.1 T.

3. The method of claim 1 wherein the zone has an inert gas atmosphere.

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4. The method of claim 3 wherein the inert gas is helium.

5. The method of claim 1 wherein the electron beams have been accelerated at a voltage of 60 to 160 kV.

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6. The method of claim 1 wherein the liquid composition comprises a polyether urethane acrylate oligomer and a reactive diluent.

30 7. A method for preparing an optical fiber, comprising the steps of:

35 applying a liquid composition of an electron beam-curable resin to a bare optical fiber or a coated optical fiber having a primary or secondary coating on a bare optical fiber,

irradiating electron beams to the resin composition on the optical fiber for curing while the optical fiber passes a zone under substantially atmospheric pressure, and

providing an electric field and a magnetic field in
5 the zone so that the electron beams pass across the electric field and the magnetic field to two-dimensionally converge on the optical fiber.

8. The method of claim 7 wherein the magnetic field has a
10 direction parallel to the path of the optical fiber, and the electric field has a direction perpendicular to the path of the optical fiber.

9. The method of claim 7 wherein the zone has an inert
15 gas atmosphere.

10. The method of claim 9 wherein the inert gas is helium.

11. The method of claim 7 wherein the electron beams have
20 been accelerated at a voltage of 60 to 160 kV.

12. The method of claim 7 wherein the liquid composition comprises a polyether urethane acrylate oligomer and a reactive diluent.